

DTIC FILE COPY

2



# AIR WAR COLLEGE

## RESEARCH REPORT

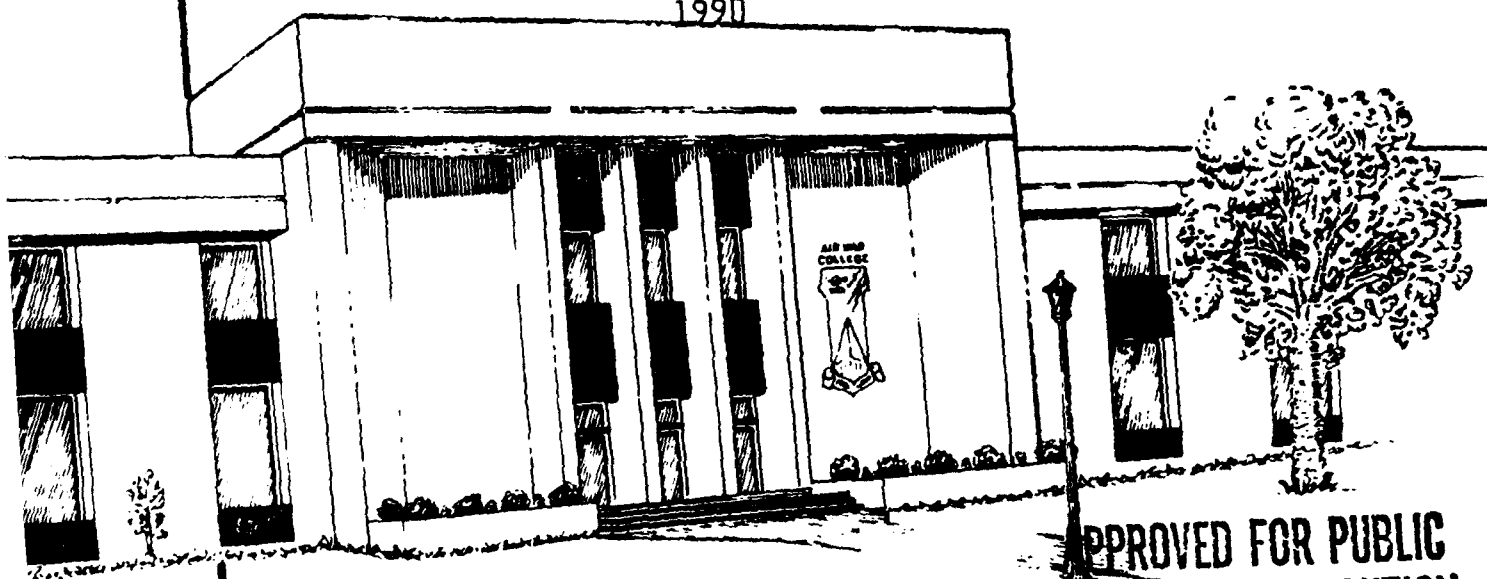
AD-A229 943

MISSION-TYPE ORDERS  
AN EMPLOYMENT CONCEPT FOR THE FUTURE

DTIC  
ELECTE  
DEC 26 1990  
S B D  
C

COLONEL ROBERT W. PETERMAN

1990



AIR UNIVERSITY  
UNITED STATES AIR FORCE  
MAXWELL AIR FORCE BASE, ALABAMA

APPROVED FOR PUBLIC  
RELEASE; DISTRIBUTION  
UNLIMITED

AIR WAR COLLEGE

AIR UNIVERSITY

MISSION-TYPE ORDERS

AN EMPLOYMENT CONCEPT FOR THE FUTURE

by

Robert W. Peterman  
Colonel, USAF

A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE CURRICULUM

REQUIREMENT

Advisor: Colonel George P. Gaines IV

MAXWELL AIR FORCE BASE, ALABAMA

March 1990

# DISCLAIMER

This study represents the views of the author and does not necessarily reflect the official opinion of the Air War College or the Department of the Air Force. In accordance with Air Force Regulation 110-8, it is not copyrighted but is the property of the United States government.

Loan copies of this document may be obtained through the interlibrary loan desk of Air University Library, Maxwell Air Force Base, Alabama 36112-5564 (telephone [205] 293-7223 or AUTOVON 875-7223).

Doc  
Copy

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

## EXECUTIVE SUMMARY

TITLE: Mission-Type Orders: An Employment Concept for the Future  
AUTHOR: Robert W. Peterman, Colonel, USAF

Supporting the Army and its AirLand Battle doctrine is a vitally important part of the Air Force mission. One of the key aspects of AirLand Battle is mission-type orders (MTO)--telling a unit to perform a mission without specifying how. Because of the need to apply combat power at the critical time and place on the modern battlefield and the nature of war involving fog and friction, a rigid centrally controlled operation cannot achieve success. MTO is a concept which allows the subordinate commanders to focus on the Commander's intent and adapt their part of the operation to the changing situations.

The concept can be applied between the Army and the Air Force within the three Tactical Air Control Systems that currently exist: contingency, Korean, and NATO. Implementation would involve three phases, although only the first phase is advisable until current studies are completed.

It is also recommended that Air Force doctrine be changed to emphasize joint planning vice coordination. Lastly, the Ground Attack Control Capability (GACC) concept needs to be implemented in NATO to obtain efficient air/ground execution on critical targets.

## BIOGRAPHICAL SKETCH

Colonel Robert W. Peterman (M.M.A.S., Command and General Staff College; M.S., Troy State University) is an F-111 pilot with extensive European experience in operations and joint and combined staffs. He has served in most key fighter squadron positions including commander. His staff experience includes a tour at Supreme Headquarters Allied Powers Europe and as the Hq USAFE Liaison Officer to Hq USAREUR. He is a distinguished graduate of the US Army Command and General Staff College. Colonel Peterman is a graduate of the Air War College, class of 1990.

## TABLE OF CONTENTS

DISCLAIMER. . . . .	ii
EXECUTIVE SUMMARY . . . . .	iii
BIOGRAPHICAL SKETCH . . . . .	iv
Chapter	
I. INTRODUCTION. . . . .	1
AirLand Battle--The Environment for Mission-	
Type Orders . . . . .	1
The Problem . . . . .	2
Overview. . . . .	2
II. COMMAND IN WAR. . . . .	3
The Quest for Information . . . . .	3
Control . . . . .	3
Air Force Doctrine. . . . .	5
Current Situation . . . . .	6
III. THE TACTICAL AIR CONTROL SYSTEM (TACS). . . . .	8
The Contingency TACS. . . . .	8
The KTACS . . . . .	11
NATO. . . . .	11
IV. MISSION-TYPE ORDERS . . . . .	15
MTO . . . . .	15
The Push for MTO. . . . .	19
What Makes MTO Work . . . . .	20
The Opposition. . . . .	22
Addressing the Problem. . . . .	26
V. CONCLUSIONS AND RECOMMENDATIONS . . . . .	29
MTO as a Counterbalance . . . . .	29
The New Jointness and MTO . . . . .	30
Recommendation--MTO Implementation. . . . .	30
Recommendation--Doctrine. . . . .	31
Recommendation--The GACC. . . . .	32
Summary . . . . .	33
NOTES . . . . .	34
BIBLIOGRAPHY. . . . .	37

## CHAPTER I

### INTRODUCTION

#### AirLand Battle--The Environment for Mission-Type Orders

General Robert D. Russ, Commander, Tactical Air Command, in a recent article on the battlefield of the 1990s, stated:

Supporting the Army is a vitally important part of the Air Force Mission--whether it involves interdiction, close air support or counter air. Outside of strategic air defense, everything that tactical air does directly supports the AirLand Battle.<sup>1</sup>

AirLand Battle is the basic fighting doctrine of the US Army.<sup>2</sup> It is an evolutionary doctrine, based on historical experiences, that stresses the individual's ability to think.

In every battle since the beginnings of time, some natural or appointed leader of small parties or large armies faced the necessity of deciding how to proceed with the accomplishment of an assigned or assumed mission. He needed a plan, and there was just one source--his own mind, experienced or not, trained or not, brilliant or not. He either came up with a good idea, or he and they disappeared into the dust of history.<sup>3</sup>

A key aspect of the doctrine is the use of mission-type orders (MTO). MTO tells a unit to perform a mission without specifying how.<sup>4</sup> It gives the commander freedom of

action, encouraging creative and imaginative solutions to handle the fog and friction of war.

### The Problem

Since the US Air Force is committed to AirLand Battle, should it adopt MTO? If adopted, would airpower efficiency increase? What resources are needed to implement the concept?

### Overview

To answer the above questions, this paper will first explore the theory of command in war to develop a model that shows the necessity of decentralization. It will then discuss the Tactical Air Control System, describe a mission-type order concept, and suggest how it could be implemented. The paper finishes with conclusions and proposed recommendations.

The focus will be on joint doctrine between the US Army and the Tactical Air Force (TAF). Support of army ground forces by airpower provided by the US Navy, Marines, Strategic Air Command and Transportation Command is not discussed.



## CHAPTER II

### COMMAND IN WAR

#### The Quest for Information

Commanders have always wanted better information from which to make decisions. They know Clausewitz's statement: "Many intelligence reports in war are contradictory; even more are false, and most are uncertain."<sup>1</sup> Thus Van Creveld, in his book Command in War, says, "From Plato to NATO, the history of command in war consists essentially of an endless quest for certainty."<sup>2</sup> In this quest, more information is requested by the headquarters. Hence, the history of command in war can also be understood ". . . in terms of a race between the demand for information and the ability of command systems to meet it."<sup>3</sup>

#### Control

With the voluminous amount of information and the improved communication and data processing available, there are commanders who think they can control everything. Van Creveld dismisses this.

Taken as a whole, present-day military forces, for all the imposing array of electronic gadgetry at their disposal, give no evidence whatsoever of being one whit

more capable of dealing with the information needed for the command process than were their predecessors a century or even a millenium ago.<sup>4</sup>

The US Army recognizes this and hence has emphasized mission orders in both their 1982 and 1986 editions of FM 100-5, Operations.<sup>5</sup> In reality, the US Army needs to go further than just mission orders--the whole process of Auftragstaktik (mission-oriented orders) as developed by the Prussians after the Austro-Prussian War (1866) and the Franco-Prussian War (1870-1871) and refined in World War I and II, needs to be adopted to develop leaders who are willing and able to take prudent, independent action to handle the unexpected.<sup>6</sup> Training and attitude are key.

As the elder Moltke wrote in a training manual for senior commanders:

A favorable situation will never be exploited if the commander waits for orders. The highest commander to the youngest soldier must always be conscious of the fact that omission and inactivity are worse than resorting to the wrong expedient.<sup>7</sup>

For the nineteenth century Prussian, quick, decisive action was the solemn duty of military leaders. They were cautioned against waiting to gather more information. They focused on their commander's intent which related the various assigned tasks and provided a vision of the desired result of an operation. Subordinates were then given their tasks, resources to accomplish the

tasks, constraints, and required coordinating information-- no "how" just "what"--a decentralized battle.

The fact that, historically speaking, those armies have been most successful which did not turn their troops into automatons, did not attempt to control everything from the top, and allowed subordinate commanders considerable latitude has been abundantly demonstrated.<sup>8</sup>

### Air Force Doctrine

For the AirLand Battle, decentralized operations by the ground forces are imperative. For airpower, does USAF doctrine support this? The answer is yes, for since 1943 and the debacle of Kasserine Pass, the key watchwords have been centralized control, decentralized execution.<sup>9</sup> But the line is fine between too much and too little centralized control. Van Creveld provides many examples where too much central control caused problems. His comparison of the Israeli 1967 war, where subordinate commanders had independence of action, with the 1973 war, where central control and an over reliance on technology created vulnerabilities which the enemy exploited, supports decentralized operations.<sup>10</sup> Clodfelter's book, The Limits of Air Power, also clearly shows the inefficiency of too much central control during Rolling Thunder where the President of the United States determined the target list for the next week in the bombing of North Vietnam.<sup>11</sup>

Too little control is less documented. Theoretically, it could allow a dilution of the air effort

or failure to follow the political guidance and constraints. But if the commander's intent is clearly stated and followed, this will rarely happen. The occasional mistake should be readily accepted when viewed against an alternative of rigid control preventing initiative on the battlefield.

#### Current Situation

An example will provide the current state of control in the AirLand Battle. In this scenario, the joint force commander gives a mission of achieving local air superiority for an operation. The air component commander responds by developing a concept of operation involving defensive and offensive counter air assets. He tells some wing commanders to attack certain designated enemy airfields but does not tell them how. He and his staff may limit the number of aircraft and constrain the approach due to limitations in airspace and electronic warfare assets, but the basic plan is left to the wing. The interface with the Army is simple--coordination of ingress and egress routes to prevent fratricide. Air superiority is accepted as the number one priority. The intent of the joint force commander is readily understood. But what about close air support and interdiction? Is the commander's intent passed down? Not exactly--what is passed is a detailed target list. This requires large staffs and excellent, redundant

communications--a weakness the enemy can exploit. It also has created a system that cannot achieve the required results in a rapidly changing environment. This system is the Tactical Air Control System (TACS), which the next chapter will cover.

## CHAPTER III

### THE TACTICAL AIR CONTROL SYSTEM (TACS)

There are three TACS: contingency, Korean, and NATO. Two of these are combined systems, formed in concert with our national security strategy of deterrence, forward defense and allied participation. Our doctrine must be applicable in both a joint and a combined arena or it would not meet our national security requirements. AirLand Battle "... is applicable to joint, combined, and tactical operations worldwide."<sup>1</sup> This chapter will briefly review the TACS as it exists in contingency operations, in Korea and in NATO.

#### The Contingency TACS

The TACS provides the TAF Commander with the facilities and trained personnel of a command and control (C<sup>2</sup>) system to conduct operations in various intensities of war.<sup>2</sup> For the purpose of this paper, the TAF Commander is also the Joint Force Air Component Commander (JFACC) or the Air Component Commander (ACC). For contingency operations, the senior control element of the TACS is the Tactical Air Control Center (TACC). The Land Component Commander (LCC) coordinates with the ACC by means of a Battlefield

Coordination Element (BCE), and the Naval Component Commander (NCC) likewise coordinates through the Naval and Amphibious Liaison Element (NALE). Thus, the TACC provides centralized control of the air effort to achieve mass, surprise and economy of force through the exploitation of the flexibility and mobility of the TAF. It applies all resources toward the objective set forth by the theater commander.<sup>3</sup> Decentralized execution is done through several agencies. The Airlift Control Center (ALCC) handles tactical airlift missions. The Control and Reporting Center (CRC) with subordinate Control and Reporting Posts (CRP) and Forward Air Control Posts (FACP) provides air defense and airspace control functions. Airborne platforms extend these functions. The Airborne Warning and Control System (AWACS) supply the TACC with the detection and control of aircraft below or beyond the coverage of available ground-based radar, and the Airborne Battlefield Command and Control Center (ABCCC) handles management of tactical forces beyond normal communication coverage of ground-based elements. The Air Support Operations Center (ASOC) with its subordinate Tactical Air Control Parties (TACP) and Airborne Forward Air Controllers (AFAC) plans, coordinates and directs the tactical air support for ground forces. The Wing Operations Center (WOC) functions as the operations center for all units

assigned/attached to the wing for operations. In addition, the Ground Attack Control Capability (GACC) concept under development by the TAF, will provide an element concerned with the execution of attacks against selected time-sensitive interdiction targets. Hence, the tactical missions of the air forces--counter air, close air support (CAS), air interdiction (AI), tactical surveillance and reconnaissance, tactical airlift operations and special operations and tasks--are managed and/or coordinated at the TACC and executed by subordinate elements.<sup>4</sup>

This management is done by a series of messages which accomplish the allotment, air apportionment and allocation cycle. Allotment is the temporary change of assignment of tactical air forces between subordinate commands. Authority is vested in the JFACC.<sup>5</sup> Apportionment is the determination and assignment of the expected effort by percentage and/or priority that will be devoted to the various air missions.<sup>6</sup> The JFACC makes these decisions in support of the JFC concept. In turn, the TAF Deputy for Operations publishes them in the Air Operations Order. Allocation is the translation by the TACC of the apportionment decision into total number of sorties available for each operation or task and published in the Air Tasking Orders (ATO).<sup>7</sup> Distribution is a further subdivision for the CAS mission in which allocated



sorties are provided to the various land maneuver units following guidance by the LCC.<sup>8</sup> Further details of the contingency TACS can be found in the Tactical Air Command 55-series publications.

#### The KTACS

The Korean TACS (KTACS) matches the contingency system in most ways. The Combined Force Commander is the JFC. The ACC's central control facility is the fixed Hardened TACC (HTACC) at Osan AB supported by centralized intelligence, radar, and automated information systems (Constant Watch) specifically designed and sized for operations on the Korean Peninsula.<sup>9</sup>

#### NATO

The NATO Air Command and Control System (ACCS) is an evolving network that has many similarities to the contingency TACS. Its main difference is the packaging of the various air control functions. Like the KTACS, it relies on fixed and hardened headquarters. Although there is not an overall air commander for Allied Command Europe, each of the regional Major Subordinate Commanders have an ACC. For instance, Commander, Allied Air Forces Central Europe (COMAAFCCE) is the ACC for Allied Forces Central Europe (AFCENT). The regional land forces Principal Subordinate Commanders (PSC), except for the AFNORTH region, have a TAF, also a PSC, that works with them.

Fourth Allied Tactical Air Force (4ATAF) supports Central Army Group (CENTAG), and will be the focus for this paper in the NATO organization.

One of the major differences between the contingency TACS and the NATO system in 4ATAF is being eliminated: the geographical separation of control of air defensive operations from facilities called Sector Operation Centers (SOC) and the control of air offensive/ground attack operations from facilities called Allied Tactical Operations Centers (ATOC). The Combined Air Operations Centers (CAOC) will control both functions from the same hardened facility.

The NATO CAOC in 4ATAF however, is not a TACC, for it lacks several execution agencies. For our discussion, the lack of a BCE is a key distinction because the doctrine developed between the Air Force and the Army--the Joint Attack of the Second Echelon (J-SAK)--relies heavily on the interplay between the BCE and the TACC.<sup>10</sup> In addition, 4ATAF will have two CAOCs, each of which has the capability to control all units assigned to the ATAF but they normally control only a specified number based on location and nationality. The tasking cycle which the CAOC uses to publish the ATO starts with the allotment decision made by COMAAAFCE, based on the concept of operations of the Commander-in-Chief, Central Region (CINCENT).

It is published in the Air Directive. The two land force commanders in the Central Region, Commander, Northern Army Group (COMNORTHAG) and Commander, Central Army Group (COMCENTAG), consult with their air counterparts, Commander, Second Allied Tactical Air Force (COMTWOATAF) for NORTHAG and Commander, Fourth Allied Tactical Air Force (COMFOURATAF) for CENTAG. The ATAFS then publish the apportionment and allocation decision in the Air Operations Order (OO). The CAOCs then publish the ATO for their units.

Because there is not any ground/air interface on offensive operations at the CAOC, and the NATO doctrinal view that Battlefield Air Interdiction (BAI) is part of Offensive Air Support (OAS) along with CAS, the ASOC, located with the Corps Fire Support Element, performs a greater role in conducting BAI than in the contingency TACS system. The Corps provides the AG with a list of targets they want struck. The AG and ATAF determine where the weight of effort should go, and the CAOC publishes the ATO covering those targets that are high enough on the priority list to be given air assets and meet the AG/ATAF guidance. → The ASOC is supposed to provide refinements or changes in the operation to the CAOC and/or WOC as the situation develops. The whole system demands high reliance on excellent communications between four levels: AG/ATAF,

CAOC, Corps/ASOC and WOC. Only two of these levels are joint, and only one of these two is really concerned with BAI since the AG/ATAF doctrinally is focused on operations beyond the Reconnaissance and Interdiction Planning Line (RIPL), some 50-100 kilometers from the Forward Edge of the Battle Area/Forward Line of Own Troops (FEBA/FLOT).

BAI then is the mission where the greatest benefit can be obtained by using Mission-Type Orders (MTO) in Europe. The reduction on communication reliance and the ability for the CAOC air commander to change the weight of effort not based on targets but on knowledge of the commander's concept and intent will allow quicker response to changing battle conditions. But the NATO environment is not the only one that will benefit from MTO nor is BAI the sole mission. The next chapter will cover what MTO is and the problems that have prevented its implementation.

## CHAPTER IV

### MISSION-TYPE ORDERS

The paper up to this point has simply set the scene, the environment in which an MTO concept would be placed. It has described a need for a centralized control, decentralized execution system that is not solely tied to communications and hardware, but relies on the commander's abilities and resources to execute the mission. The current system does not meet this need. This chapter will explain MTO, describe how the concept could be used, provide some information on what has been done on this concept and suggest some ideas on its implementation.

#### MTO

JCS Pub 1 defines MTO as follows:

- 1) Order issued to a lower unit that includes the accomplishment of the total mission assigned to the higher headquarters.
- 2) Order to a unit to perform a mission without specifying how it is to be accomplished.<sup>1</sup>

Both concepts are required in MTO, that is, the "big picture" view stated in the first part of the definition which tells the unit where they fit into the puzzle as well as the elements of an order, and the non-specified who, what, when, where and why in the second part

of the definition. It does not tell how. The definition is correct but incomplete. The commander's intent is key and needs to be emphasized. It is the why element of an order and provides the subordinate commander with information needed to adjust his plans when and if the situation changes.

For example, using a fictitious wartime scenario in Europe, CINCENT as the JFC, sees the 8th Guards Tank Army (GTA) as a threat to his defensive cohesion in the CENTAG area. Friendly reinforcements are programed but require additional time to be integrated into the battle. Hence, CINCENT, in concert with COMAAFCF, issues an MTO that says to CENTAG and 4ATAF: "Delay the 8GTA east of the Elbe River for at least 24 hours from D+3 in order to allow 194th SAB and 10th Mtn Div(L) to assume blocking positions within required sectors and thus maintain defensive cohesion." The order states who--the 8GTA, the what--delay for 24 hours, the when--D+3, the where--east of the Elbe, and the why--the commander's intent of providing the 194th SAB and 10th Mtn Div(L) to COMCENTAG to shore up his defensive line. No how is stated. CENTAG issues orders to the Corps assigning the 194th SAB and 10th Mtn Div(L). 4ATAF assigns the CAOCs the percentage of effort for AI with the CINCENT mission statement and targets that will impede the 8GTA advance.

If the situation changes, for example the 8GTA stops on its own or the friendly units are ready quicker than expected, then the CAOC would be permitted to divert the resources to the next priority. Likewise, knowing the intent of the operation, the CAOC would be permitted to divert additional resources from lesser priority missions if the desired result was not being obtained. In an MTO system, the CAOC commander is given the authority to follow the mission and the intent of the order without the requirement to get further words from 4ATAF, thus increasing responsiveness while reducing dependency on communications.

In the non-MTO environment today, the problem of C<sup>2</sup> structure forces the decisions to the CENTAG/4ATAF level because it is the only joint headquarters for AI. Unlike the TACC with its BCE, the CAOC (ATOC) has but one Army officer. In the contingency system and the KTACS, the current planned TACC structure could do it all once the JFC issued his MTO.

For example, given an operation in the CENTCOM area of responsibility, the JFC, with consultation with his ACC, could issue an MTO to delay a reserve unit from thickening the defense where a counterattack was due to take place. The ACC would develop an air campaign to accomplish this and seek agreement with the LCC for the percentage of

resources needed to accomplish the task. The Air Operations Order is then sent to the TACC where sorties are tasked in concert with land operations known through the BCE.

The MTO system thus gets away from a target-oriented procedure which only says strike this target. Target orientation can lead to striking of targets that are potentially unrelated and allowing a critical area that must be destroyed first, not to be struck with sufficient combat power.

But the benefits are greater than just this. MTO increases responsiveness and flexibility as shown in the example where the CAOC commander shifted his resources because either the situation changed or the objective was accomplished. Planning and execution would be impacted less by communication failures, since missions, not solely target lists, are transmitted, hence units can continue to conduct operations that meet the commander's objectives. And the increased air power effectiveness caused by mission rather than target orientation would allow better composite force packaging and increased aircrew situational awareness of what was being accomplished and why, in the area of the operation.



### The Push for MTO

So why has MTO not been adopted? MTO for the USAF has been talked about since the development of the Joint Second Echelon Attack (J-SAK) procedures, developed as part of the Joint Force Development Initiative 21, Battlefield Air Interdiction in 1984. In Europe, General Galvin, then VII Corps Commander, wrote in a message to then US Army Europe (USAREUR) Commander, General Otis:

. . . In the Central Region of NATO the overall framework is established by the senior ground maneuver commander (in this case, Army Group). His intent must be thoroughly understood by the Corp Commander. Similarly, the Army Group Commander must understand the Corps Commander's concept of how he plans to accomplish the assigned mission and the requirement for ground and air support. A similar relationship exists between Corps and Division commanders. One of the failings has been that we have not always informed supporting commanders of the battle plan and their role in it. This has been particularly true of the supporting air commanders.

In the Deep Battle area between the FSCL and RIPL, the Corps Commander needs Battlefield Air Interdiction that has as its main purpose the attack of follow-on forces to disrupt them and attrit them as they approach the Close-in Battle area. Battlefield Air Interdiction will require continuous and integrated reconnaissance and strike missions in accordance with the ground commander's plan. The best way to achieve this is to carry out BAI in the same way we accomplish other battlefield tasks: with mission-type orders. The air commander should be given a mission, not a series of targets.<sup>2</sup>

Because of General Otis's support of the need to improve BAI procedures to gain better air/ground integration and to look at mission-type orders, HQs CENTAG and 4ATAF did a BAI study starting in March, 1985. Mission

objective BAI was the result which did result in improved air/ground procedures at the CENTAG/4ATAF level, but due to exercise and equipment limitations, has never been fully implemented.<sup>3</sup> Currently, the Directorate of Airland Forces Application (DALFA), a staff organization of HQs USAFE and USAREUR are engaged in Project 89-2, Joint Application of Mission Type Orders (JAMTO) as part of the JCS tasking to HQ USEUCOM on Low Cost Initiatives to implement Follow-on Forces Attack (FOFA).<sup>4</sup>

#### What Makes MTO Work

Equipment and exercise constraints should not stop a procedure that has such great possibilities. What are the key elements that make mission-type orders work? The Air Staff lists four:

- 1) Understanding the relationship of commander's intent to the synchronized schemes of maneuver to produce a desired effect on the enemy.
- 2) Developing a simple concise statement of the unit's mission.
- 3) Specifying in a concept of operations the details of time, place and desired effect the unit is to have on the enemy. The concept of operation will also include coordination instructions for force packaging in complementary and supporting operations.
- 4) Putting in place a feedback mechanism that allows commanders to be responsive to the operational level strategy and measure a unit's success by its impact on the battlefield.<sup>5</sup>

The first key element is a problem. It requires the air commanders at all levels to understand the friendly and enemy situation, the JFC's plan, and the relationship between the air and ground schemes of maneuver in support

of the campaign plan. USAF schooling has not taught air officers ground maneuver nor has Army schooling taught ground officers air principles. There are only a handful of officers who attend each others staff colleges, certainly not enough to fill the requirement.

In other words, until the Goldwater-Nichols DOD Reorganization Act, enacted on 1 October 1986, established a system for joint officer management which emphasized the importance of officers schooled and experienced in joint matters, there simply were not enough officers able to understand a ground commander's mission and intent and change that into air operations to support the concept. Currently this is still the case, but the emphasis and schooling is now in place and in a few years, sufficient properly trained personnel should be available.

The second key element is less of a problem. Ground commanders are used to stating the mission in simple concise terms in paragraph two of their Operations Order. Making it a requirement to pass this on to the air commander, as is presently done in CENTAG/4ATAF, accomplishes this element.

The third key element requires agreement on definitions of desired effect. V Corps uses the following definitions:

Defeat: Eliminate ability of enemy to accomplish its assigned mission. (Can defend but cannot attack).

Destroy: Eliminate ability of enemy to accomplish any mission commensurate with its size. (Cannot attack or defend).

Disrupt: Interrupt enemy unit's tempo of operations forcing him to piecemeal his forces into the battle.

Delay: Force the enemy to arrive at the battle at the time of our choosing.<sup>6</sup>

Additional discussions between the Army and AF need to be held to come to a consensus on these and other terms.

The fourth key element requires near real time intelligence systems focused on the tactical commander's area of operation. Much is being done in this area with the development of intelligence systems providing fused data such as LOCE (Linked Operations and Intelligence Centers, Europe) and exercises to develop air/ground targeting procedures such as RTCE (Rapid Targeting Capability Europe).<sup>7</sup> Follow-on systems such as J-STARS (Joint Surveillance Target Attack System) and BICES (Battlefield Information Collection and Exploitation System) will provide the information if the money is spent to deliver the information to the tactical commander. A note of caution needs to be sounded here. This combination of correlated and assessed data could lead to micromanagement of the tactical battle at the operational level. This must be firmly resisted.

#### The Opposition

MTO, although recognized as a "good thing," is opposed because of three factors: 1) the lack of personnel

schooled in ground maneuver at the TACC; 2) the existence of skilled Army targeteers at the Corps; 3) the need for extensive communication between the Corps and the TACC.<sup>8</sup>

The first argument is currently valid. However, as has been pointed out previously, sufficient Air Force personnel trained in ground maneuver will be available in the personnel pool in the coming years. A change in the job description for planners at the TACC to be Joint Specialty Officers (JSO), with experience in air/ground operations, could negate this objection. The second objection is tied to the first by assuming only Army-trained personnel can understand templating enemy units and the mission and intent of the ground commander. This of course is one of the reasons why the JSO was created. A JSO, schooled in air/ground operations, can meld the mission and intent of the ground commander into the air campaign designed by the ACC, thus supporting the JFC's concept. In addition, by pulling some of the highly skilled targeteers from the Corps, consolidating them with the AF targeteers, as has been accomplished in exercises, there could be a potential reduction in manpower needs, reduction in size of the Corps Tactical Operations Center (CTOC) thus enhancing survivability, and potentially better use of TENCAP (Tactical Exploitation of National Capabilities) information. Lastly, the consolidation would

eliminate the need for more extensive communication requirements.

As an aside, this idea of consolidation can get fairly radical. If the NATO and USAF doctrine would agree that BAI was a subset of AI, not OAS, and the Army and USAF doctrine was changed to reflect targetting responsibilities, the TACC (in NATO the ATAF and CAOCs), with its supporting intelligence organizations, could target all areas outside tube artillery and MLRS (Multiple Launched Rocket System) range, ie., outside the Fire Support Coordination Line (FSCL), using AF fixed-wing assets and Army long range assets such as ATACMS (Army Tactical Missile System) and attack helicopters not reserved for screening or close operations. The Corps commander would still be concerned with deep operations, but rather than having his staff break his mission and intent into targets for air operations, the TACC would specify targets based on an MTO formatted by the Corps commander and agreed and passed by the ACC/LCC. The main advantage of this arrangement is the ease of establishing the "Schwerpunkt"--the place where concentration of combat power is required, using all air assets whether Army or AF. The FSCL, established by the Corps, would be the dividing line for CAS and AI, with CAS being subdivided either close control, when being employed around friendly troops, or

procedural control, when within the FSCL but not involving friendlies. The Army commanders would control this area as they currently do today.

Conversely, MTO applies just as well if the control of BAI is given to the ASOC, except when force packaging is necessary.

Therefore, although employing different capabilities, both the ASOC and Corps TOC could be assigned the same mission-type orders by their respective superiors, achieving real airland integration. To be most effective, these BAI sorties must be applied against all enemy forces within the corps area that present an immediate threat. Since the distance from FLOT to BAI target will vary, it is vital that no rigid distance limit be imposed on specific BAI sorties.<sup>9</sup>

Thus, structure is not the problem. MTO should be applied in either case. The target-oriented system between the Army and the AF must be changed. But General Galvin recognized that probably, at least during the transition to MTO, some talk in terms of targets, target complexes and target lists might be necessary.

Targets and target complexes provide the air commander with specific tasks within his mission. Although these "tasks" would not necessarily be all-inclusive. The air commander would also exercise his judgment as the factors of METT-T change. Target lists give the air commander an idea of the ground commander's priorities for various types of targets within the mission order.<sup>10</sup>

But the MTO idea, the concept, also does not depend on changes in doctrine. The simple inclusion of the Army commander's mission and intent in all interservice communications and in ATOs/ATMs to the WOCs will provide an

air/ground interface that has been sorely missed. It will provide the "why" to the mission and allows for innovative thinking when the situation changes or communications are disrupted. The support, the desired effect or outcome, can be accomplished even if the target or situation changes. This is the key difference between MTO and a target-oriented system. Unless a target-oriented C<sup>2</sup> system is created, that is highly automated, fully cognizant of enemy and friendly situations and completely resistant to enemy action, there is no other system that can meet the objective.

#### Addressing The Problem

MTO appears to provide C<sup>2</sup> practices that meet the needs of tomorrow's battles. But there is more to the problem statement. Airpower efficiency and implementation resources must be addressed.

Theoretically, MTO is a process that could increase airpower efficiency in the rapidly changing modern battlefield. But analytic measurement does not seem possible, although simulation might provide an indication.

Historically, support is given to MTO. Rationally, the system is simple. Its problem, though, is that it relies on the knowledge of the receiver of the order rather than the giver. One of the receivers in the ground attack mission is the Air Force, a service which spent its first



three decades connected to the Army but trying to distance itself from the ground forces. Now it must reverse in earnest.

MTO is currently an unspecified process that is more correctly described as an attitude. It is an attitude that replaces coordination with joint planning. And logically, when both services understand each other's strengths and weaknesses, greater efficiency should result.

The other part of the problem statement asked about the resources required to implement MTO. The implementation should be in three phases. Phase I can be initiated with little or no cost and involves the reformatting of the ATO/ATM and the Corps Assessreps and target lists to include mission and commander's intent. During this time, additional JSOs will be designated and education between the Army and Air Force, both US and Allies, will take place. Studies will continue on NATO structure, intelligence architecture and tactics, techniques and procedures to implement MTO, with DALFA providing the US lead in Europe, AF/XOX, TAC and TRADOC reviewing CAS/BAI/AI procedures, and the Air Force revising basic air doctrine.

Phase II involves the testing via simulation and exercises of the concepts agreed in the studies and firming up the manpower and equipment costs of the options.

Regardless of the decisions on which level BAI planning should take place, some additional Army personnel must be provided to the CAOCs to insure joint planning and execution of the mission. A GACC-like structure is proposed.

Phase III is the execution of the agreed options. By this time, sufficient JSOs will be available to man the key positions in the TACCs and with Allied consent, likewise for the CAOCs. Changes in intelligence architecture, communication structure and standard operating procedures would be initiated and practiced.

The final chapter will list the conclusions and recommendations to implement MTO.

## CHAPTER V

### CONCLUSIONS AND RECOMMENDATIONS

#### MTO as a Counterbalance

According to Van Creveld, there are two approaches which can be followed when commanders are confronted with a task and have less information available than is needed:

1) increase the information processing capacity or 2) design the organization and task itself to operate on the basis of less information. This second approach can be done either by drastic simplification or by the division of the task into parts and the establishment of forces capable of dealing with each of these parts separately on a semi-independent basis. The latter consistently proves to be the only effective approach to command in war.<sup>1</sup>

Although the trend today in the military is to disregard Van Creveld's advice and increase our information processing capacity instead, MTO is a means to achieve balance. Auftragstaktik is a lesson of history that works. We must prevent our young officers and NCOs from maturing in an environment where decisions by small group leaders are not allowed.

### The New Jointness and MTO

The second conclusion is that in 1984, when the Air Force was drawn into the MTO arena by the Army with the development of J-SAK, the environment was not right for it to succeed. Remember, MTO requires the receiver of the order to understand ground maneuver. Not many AF officers understand this art.

The Goldwater-Nichols DOD Reorganization Act. establishes a system for joint officer management which emphasizes the importance of officers schooled and experienced in joint matters. Now there is a mechanism that rewards jointness--understanding of the other services is a requirement. The environment now exists to implement MTO. The people resource in a few years will no longer be the large stumbling block that it has been.

### Recommendation--MTO Implementation

It follows that given the benefits of MTO and the change in the environment, that MTO implementation is a logical recommendation--but only Phase I. Full implementation, if agreed, must wait for a full listing of the costs associated with the intelligence architecture and personnel needs which will allow the Corps/ASOC - CAOC - AG/ATAF triangle to work in Europe and the Corps/ASOC - TACC - ACC/LCC triangle to work in the contingency and

KTACS model. The studies currently ongoing will provide this information. Decisions on Phase II and III must wait.

However, the ATO/ATM procedures can be altered now. The inclusion of mission and commander's intent, not just the targeteer's specific requirement, will allow a better understanding of the mission and will encourage creative thinking by the Wing Commanders and their staffs as well as provide guidance if communications are subsequently disrupted. It should also provide more information on the land/air campaign thereby allowing resource planning more than 24 hours at a time. Land commanders must have assurances that their counterattacks, for example, planned in three days time, will be supported by air. It is the AirLand Battle not the Air Battle plus the Land Battle.

#### Recommendation--Doctrine

The current AF doctrinal review to produce an updated AFM 1-1 is a key project. This document must reflect the new environment, the reality of jointness. One aspect of this is the idea of coordination versus joint planning. Up to now, our doctrine and tactics, techniques and procedures have emphasized the coordination task with our sister services. For the battlefields of today and tomorrow, coordination does not measure up to the job. The services must be an integral part of the operational planning. All resources, regardless of their service

affiliation, must be brought to bear at the critical place and time to effect the desired result. Synchronization, one of the basic AirLand Battle tenants, cannot be achieved by just coordination. Joint planning, the full understanding of the mission, is a key element. Our doctrine must reflect this.

#### Recommendation--The GACC

The last recommendation applies to Europe. With the division of TACC tasks among the AG/ATAF level and the CAOC (ATOC + SOC), there is a strong need for greater Army participation at the CAOC. Although a BCE-sized organization is probably unsupportable due to space limitations and manpower availability, a smaller group seems to be essential. Jointness cannot be achieved without adequate participation of both services at all levels in the AG/ATAF - CAOC - Corps/ASOC chain. The GACC concept is a good starting point that would allow decentralized, yet focused and synchronized, execution against key targets. Current studies by US and Allied headquarters should continue to explore options that are efficient and affordable. To implement MTO efficiently at all levels would require increased land participation at the CAOC.

### Summary

The TAF supports AirLand Battle. It is a battle of maneuver. "Manoeuvre theory, with its emphasis on tempo and dynamic effects and thus on responsiveness, is not really compatible with control by detailed orders."<sup>2</sup>

Thus:

. . . a commander must regard his superior's intention as sacrosanct, and makes it attainment the underlying purpose of everything he does. . . . He is to be left as much freedom of execution as possible.<sup>3</sup>

It is like a football team engaged on the gridiron. The basis must be ". . . an unbroken chain of trust and mutual respect running from the controlling operational commander to the tank or section commander"<sup>4</sup>

MTO is the vehicle to achieve the dedication to the commander's intention combined with independence of mind. With this combination, our forces will be successful in every future battle.

## NOTES

### CHAPTER I (Pages 1-2)

1. General Robert D. Russ, USAF, "The Air Force, The Army and the Battlefield of the 1990s," Defense/88, July-August 1988, p. 12.

2. Operations, Field Manual 100-5 (Washington: Department of the Army, 5 May 1986), p. 9.

3. General William E. DePuy, USA(ret), "Concepts of Operation: The Heart of Command, The Tool of Doctrine," Army, August 1988, p. 28.

4. Dictionary of Military and Associated Terms, JCS Pub 1 (Washington: US Govt Printing Office, 1 Jun 87), p. 237.

### CHAPTER II (Pages 3-7)

1. Carl von Clausewitz, On War, trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1984), p. 117.

2. Martin Van Creveld, Command in War, (Cambridge Mass: Harvard University Press, 1985), p. 264.

3. Ibid., p. 265.

4. Ibid.

5. John T. Nelsen II, "Auftragstaktik: A Case for Decentralized Battle," Parameters, September 1987, p. 21.

6. Ibid., pp. 21-34.

7. U.S. Department of the Air Force, HQ USAF/XOXWK, Mission Type Orders (MTO) (Draft), 31 August 1988, p. 2.

8. Van Creveld, p. 270.



9. Basic Aerospace Doctrine of the United States Air Force, Air Force Manual 1-1 (Washington: Department of the Air Force), 16 March 1984, p. A-6.

10. Van Creveld, p. 202, 231.

11. Mark Clodfelter, The Limits of Air Power, (New York: The Free Press, 1989), pp. 73-146.

#### CHAPTER III (Pages 8-14)

1. FM 100-5, p. 6.

2. The Tactical Air Control System, Tactical Air Command Regulation 55-45 (Langley: Tactical Air Command, 3 April 1988), p. 1-1.

3. Ibid., p. 2-1.

4. Ibid., pp. 2-2 - 2-7, 5-1 - 5-3.

5. Ibid., pp. 2-1 - 2-2.

6. Ibid., p. 2-1.

7. Ibid.

8. Ibid.

9. Tactical Air Force C2 Improvement Plan, (Langley: Tactical Air Command, December 1985), p. 22.

10. Joint Operational Interface of the Ground Attack Control Capability Study (J-GACC) Phase II, (Langley: Tactical Air Command, April 1986), p. 1.

#### CHAPTER IV (Pages 15-28)

1. JCS Pub 1, p. 237.

2. Message, Commander, VII Corps to Commander, USAREUR, subject: Joint Force Development Initiative 21, Battlefield Air Interdiction, 251530Z October 1984, para. 5,6.

3. Briefing, Directorate of Airland Forces Application, Project 2-89, Joint Application of Mission Type Orders (JAMTO), 29 September 1989.
4. Ibid.
5. MTO, p. 4.
6. Briefing, V Corps Fire Support Element, 1 November 1989.
7. Briefing, Intelligence Overview, 1 November 1989.
8. Major James W. Church, USA, "Integrating Battlefield Air Interdiction into the AirLand Battle at the Corps Level" (research report, Air Command and Staff College, Maxwell AFB, Ala., 1986), pp. 38-47.
9. LTC Price T. Bingham, USAF, "Battlefield Air Interdiction and the Evolution of Doctrine" (research report, CADRE, Maxwell AFB, Ala., 1986), pp. 15-17.
10. Message, para 11.

#### CHAPTER V (Pages 29-33)

1. Van Creveld, p. 269.
2. Richard E. Simpkin, Race to the Swift Thoughts on Twenty-First Century Warfare, (London: Brassey's Defence Publishers, 1985), p. 230.
3. Ibid., pp. 231-232.
4. Ibid., p. 230.

## BIBLIOGRAPHY

### Books

Clausewitz, Carl von. On War. Edited and translated by Michael Howard and Peter Paret. Princeton: Princeton University Press, 1984.

Clodfelter, Mark. The Limits of Air Power: The American Bombing of North Vietnam. New York: The Free Press, 1989.

Simpkin, Richard E. Race to the Swift. London: Brassey's Defence Publishers, 1985.

Van Creveld, Martin. Command in War. Cambridge, Mass.: Harvard University Press, 1985.

### Government Documents and Studies

Air Standardization Coordinating Committee. Tactical Air Procedures: Air Interdiction Operations. Air Std 45/7A. 16 Dec 1986.

Kahan, James P., and Jamison, Lewis M. Deep Operations at NATO's Central Army Group. Rand Report R-3589A. Jul 1988.

U.S. Department of the Air Force. AFM 1-1. Air Force Basic Doctrine. 16 Mar 1984.

U.S. Department of the Air Force. Joint Operational Interface of the Ground Attack Control Capability Study (J-GACC), Phase II. TAC Joint Studies Group. Apr 1986.

U.S. Department of the Air Force. Program Management Directive for C<sup>3</sup> Application. 22 Feb 1989.

U.S. Department of the Air Force. TACR 55-45. The Tactical Air Control System. 8 Apr 1988.

U.S. Department of the Air Force. Tactical Air Forces C<sup>3</sup> Improvements Plan. Dec 1985.

U.S. Department of the Air Force. TAF SON for Air Support Operations Upgrade. 2 Mar 1989.

U.S. Department of the Army. FM 100-5. Operations. May 1986.

U.S. Department of Defense. JCS Pub 1. Dictionary of Military and Associated Terms. 1 Jun 1987.

USREDCOM PAM 525-8/TRADOC PAM 525-45/TACP 50-29. General Operating Procedures for Joint Attack of the Second Echelon (J-SAK). 31 Dec 1984.

#### Periodicals and Articles

Buel, Larry V., Capt. "Intelligence Preparation of the Battlefield." Military Review 67 (Oct 1987): pp. 24-33.

Crighton, Gordon C., LTC and Baker, Timothy J., Maj. "NATO Primer on Battlefield Air Interdiction." Field Artillery, Feb 1988: pp. 30-33.

Daskal, Steven E. "Adapt Tactical Air to AirLand Battle." Journal of Defense and Diplomacy 5: pp. 17-19.

DePuy, William E., Gen. "Concepts of Operation: The Heart of Command, the Tool of Doctrine." Army 38 (Aug 1988): pp. 26-32.

Ferenczy, Gabriel I., AirCom. "A System of Systems-The Battlefield Information Collection and Exploitation System (BICES)." NATO's Sixteen Nations 32 (Aug 1987): pp. 43-45.

Grin, John. "Command and Control: Force Multiplier or Achilles Heel?" Defense Analysis 5: pp. 61-76.

Hamm, Manfred R. "The AirLand Battle Doctrine: NATO Strategy and Arms Control in Europe." Comparative Strategy 7: pp. 183-211.

Heyden, Joachim. "Forewarned is Forearmed-Different Reconnaissance, Surveillance and Target Acquisition Systems for FOFA." NATO's Sixteen Nations 32 (Aug 1987) pp. 39-42.

Kelley, James A., Maj and Huffman, Alan Kim, Maj. "JAAT Planning: Getting the Most from Synchronized Forces." Field Artillery, Feb 1988: pp. 35-38.

- Kerkemeyer, Frank A., Capt. "Auftragstaktik." Infantry 77 (Nov-Dec 1987): pp. 28-30.
- Meier, A.L., Brig. "BICES: A Central Region Perspective." International Defense Review 19: pp. 1445-1449.
- Nelsen, John T. II. "Auftragstaktik: A Case for Decentralized Battle." Parameters 17 (Sep 1987): pp. 21-34.
- Nowak, Leonard G., Col, Ret. "Synchronizing Deep Attack Support: The Corps Troop Operations Cell." Military Review 68 (Jul 1988): pp. 20-26.
- Rawles, James W. "The Mighty Five." Defense Electronics 19 (Nov 1987): pp. 58-74.
- Rippe, Stephen T., LTC. "Army and Air Force Issue: Principles and Procedures for AirLand Warfare." Air University Review 37 (May-Jun 1986): pp. 60-69.
- Russ, Robert D., Gen. "The Air Force, The Army, and the Battlefield of the 1990s." Defense/88, Jul-Aug 1988: pp. 12-17.
- Saint, Crosbie E., Gen and Yates, Walter H., Jr., Col. "Attack Helicopter Operations in the AirLand Battle's Deep Operations." Military Review 68 (Jul 1988): pp. 2-9.
- Sanderson, Kent S., Capt. "Joint STARS Looks Deep to Win." Field Artillery, Feb 1988: pp. 25-27.
- Snow, Joel J., LTC. "AirLand Battle Doctrine Tenets in Opposition." Military Review 67 (Oct 1987): pp. 63-67.
- Von Sandrart, Hans Henning, Gen. "Considerations of the Battle in Depth." Military Review 67 (Oct 1987): pp. 8-15.
- Walker, John, AVM. "The Air Battle- The First Hours." NATO's Sixteen Nations 33 (Sep 1988): pp. 28-45.

#### Unpublished Materials

- Bingham, Price T., LTC. Air Power and the Defeat of a Warsaw Pact Offensive: Taking a Different Approach to Air Interdiction in NATO. 23 Apr 1986.

Battlefield Air Interdiction and the Evolution of Doctrine. 1986.

Operational Art and the Employment of Ground Maneuver and Air Interdiction. 29 Jun 1988.

Church, James W., Maj. Integrating Battlefield Air Interdiction into the AirLand Battle at the Corps Level. ACSC Student Report 86-0540, Apr 1986.

Kreps, Robert P., Maj. The Korean Tactical Air Control System (KTACS) Communication Network: A Model for the Command Readiness Exercise System. ACSC Student Report 82-1450, Apr 1982.

Monko, Joseph P., LTC. Doctrinal Shortfall-Who Will Command the Deep Battle. USAWC Mil Studies Program Paper, 23 Mar 1988.

U.S. Department of the Air Force. Mission Type Orders (MTO). (Draft). HQ USAF/XOXWK, 31 Aug 1989.

#### Other Sources

Briefing, Directorate of AirLand Forces Application (DALFA), Project 2-89, Joint Application of Mission Type Orders (JAMTO), 29 September 89.

Briefing, V Corps Fire Support Element, 1 November 1989.

Briefing, Intelligence Overview for DALFA Project 2-89. 1 November 1989.

Joint Force Development Initiative 21, Battlefield Air Interdiction. Message, Commander VII Corps to Commander USAREUR, 251530Z October 1984.